



**OMNI PRODUCTS, INC.**

Established 1978

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## Product: dB-Rock

### PRODUCT DESCRIPTION

dB-Rock is a sound damping material designed to bond two plys of gypsum wallboard or other building material into a constrained layer damped wall panel. A unique and innovative product, dB-Rock provides superior sound transmission loss characteristics when utilized in wood or steel stud wallboard wall systems. Wall systems composed of dB-Rock laminated panels economically reduce the transmission of airborne and structure-borne noise between occupancies in buildings.

dB-Rock bonds two layers of gypsum wallboard, or other wallboard type products, with a core of viscoelastic damping material. Furnished in rolls with a release sheet, the viscoelastic compound has been formulated specifically to provide acoustic damping resulting in a system that significantly reduces both impact and airborne sounds.

#### Use:

dB-Rock is an ideal alternate to conventional lightweight partition systems. dB-Rock has proven effective in both new construction and remodeling, with practical designs for both load bearing wood studs and non-load bearing drywall steel stud systems. The noise control attributes of dB-Rock dramatically improve both airborne and structure-borne noise insulation properties of a partition system while maintaining other attributes such as fire resistance and structural integrity.

dB-Rock is considered a breakthrough in acoustics because it is the first product to also provide resistance to structure-borne vibration. With the invention of dB-Rock there is now a solution to an acoustical problem not generally solved with conventional wall materials. This attribute makes dB-Rock particularly desirable for party walls in residential and commercial buildings.

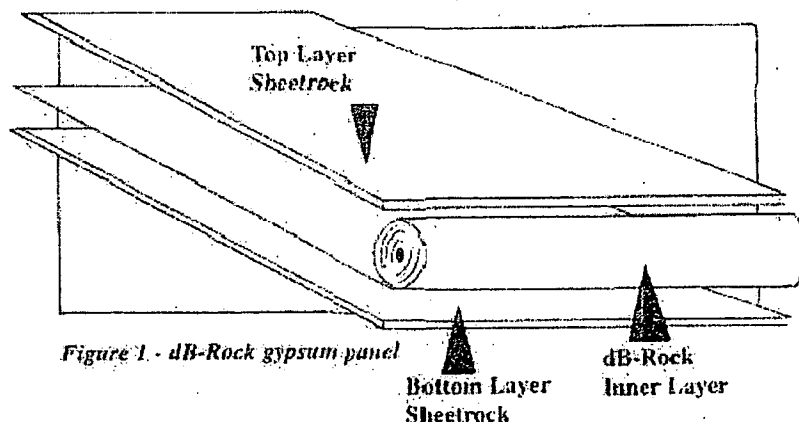


Figure 1 - dB-Rock gypsum panel

dB-Rock reduces the "drum head" effect common in conventional wallboard systems. A dB-Rock wall system has a feeling of "solidarity" not achievable since the days of solid rock walls. The acoustical effectiveness of systems utilizing dB-Rock has been demonstrated to be equal or superior to more expensive wall systems.

#### Applications:

dB-Rock is intended for use as the party wall between separate occupancies in multifamily dwellings, hotels, offices, commercial and public buildings.

Examples in residential buildings are party walls that separate in-home theaters, kitchen, bathroom, playroom, exercise area, stairways and hallways from bedrooms and other quiet rooms.

Examples in commercial buildings are walls between occupancies in stores, medical centers, day care facilities, gymnasiums, aerobic studios, schools and offices.

Building codes contain minimum Sound Transmission Class (STC) ratings for most multifamily dwellings. Similarly, retail stores, small office buildings and strip malls require noise isolation. Many conventional wall systems give the impression they are "paper thin" and "cheap" dB-Rock provides the feeling of a "solid wall" in all buildings types.

#### Installation:

Installation of dB-Rock laminated panels is the same as with conventional wallboard. No special fasteners, clips, furring channels or messy adhesives are required. Efficient wall systems employ layout, fastener type and fastener spacings that comply with conventional industry practice. Follow the Association of the Wall and Ceiling Industries-Int. (AWCI), Ceilings and Interior Systems Construction Association (CISCA), and Gypsum Association (GA) designed recommendations.

A key performance attribute of dB-Rock wall systems is that they are acoustically effective without adversely altering structural and fire resistance characteristics. dB-Rock panels are carefully tuned to be acoustically effective with only minimal changes to structural stiffness. To achieve the same sound ratings, the product type and thickness, fastener and fastener spacings must be identical to system test descriptions. Specific details of the systems tested for acoustical performance are given in the Technical Data section of this report.

## TECHNICAL DATA

**dB-Rock** inner layer is a viscoelastic material supplied in rolls nominally 54" wide with a release sheet. Base material is 4 mil thick. Other sizes available on special order.

**Facings:** Base panels may be specified to be: regular gypsum wallboard, Type X fire rated gypsum wallboard or special fabricated using customer specified flat panels.

**Edges:** Base panels should have a square edge. Finish layers may have a standard gypsum wall board taper joint for tape and spackle. Vinyl covered wallboard and most decorated gypsum panels may be used.

**Weight:** Damping layer adds approx. 0.021 lbs. per square foot to specified substrate.

**Damping material:** Viscoelastic compound is 4 mil thick, has integral bonding on both surfaces, with a release sheet. Temperature Range: -4°F to +122°F (-20°C to 50°C). Peel Strength: 155.5 oz./in. width (24hr.) All test procedures used are in accordance with ASTM and PSTC methods.

**Approvals:** dB-Rock is generally accepted by code authorities for most wall systems. Stud spacings up to 24" o.c. are acceptable for dB-rock panels a minimum of 3/4" thick. Base panels maintain Underwriters Laboratories (UL) Class A flame spread and smoke developed and time design fire ratings. dB-rock satisfies code criteria for combustible and noncombustible buildings.

**Attachments:** Standard fasteners (nails, screws or power driven) may be spaced a maximum of 12" o.c.

### Acoustical performance:

dB-rock is an acoustically effective barrier of both airborne and structure-borne noise. Airborne Sound Transmission Loss (STL) tests were conducted per ASTM E-90 at Riverbank and Electro-Acoustic Laboratories. Both are NVLAP approved independent laboratories.

## Systems tested:

**System #A:** 2-1/2", 25 ga. drywall steel studs 24" o.c., 1" dB-rock applied one face with self drilling screws spaced 12" o.c. The other face had 1/2" gypsum wallboard applied with screws 12" o.c. with joints taped and spackled.

STC = 42 Test #RAL TL93-2  
Riverbank

(comparison: steel studs with 1/2" or 5/8" wallboard both sides has a STC=35-39—Gypsum Association #WP 1370)

**System #B:** System A with core of 2" mineral fiber insulation.

STC = 50 Test #RAL TL93-3 -  
Riverbank

(comparison: steel studs, 1/2" or 5/8" wallboard with a mineral fiber core has a STC=40-44—Gypsum Association #WP1240)

**System #C:** 2x4 wood studs 16" o.c., R-8 fiberglass core, one side of 1-1/4" dB-Rock with screws 12" o.c., other side has 1/2" plywood shear wall, resilient furring channels 24" o.c. & 5/8" wallboard with screws 12" o.c., joints taped & spackled.

STC = 51 Test #TL-93-131 -  
Electro-Acoustic

(comparison: as above with resilient channels & wallboard replacing dB-Rock: STC=50 Test #TL-93-129 Gypsum Association #WP1370)

See Table 1 for Sound transmission Loss value at 1/3 octave intervals.

Note: dB-Rock performs well at all frequencies above 500 Hz. Without the controversial 8dB rule the STC will improve by 8 points.

## INSTALLATION

Laminate dB-Rock panels in the field or in the shop by rolling out the viscoelastic inner layer on the back of dry, clean, dust free panel. Remove the release paper and apply a second dry, clean dust free panel back over the ad-

**TABLE 1**  
Sound Transmission Loss  
System A,B,C

FREQUENCY (HZ.)	A	B	C
125	20	26	34
160	22	33	38
200	27	41	38
250	32	46	41
315	32	49	41
400	39	54	44
500	43	56	45
630	46	58	49
800	51	62	53
1000	55	64	58
1250	57	66	61
1600	58	66	63
2000	54	63	58
2500	49	58	55
3150	52	57	60
4000	56	62	66
5000	60	65	74
STC	42	50	51

hesive. Apply hand pressure to assure bond. Installation of finished laminated panel is identical to conventional wallboard. Attach dB-Rock to steel studs with self-drilling dry wall screws. Use nails or screws on wood studs. For normal wall conditions space fasteners per conventional industry conditions, the architect or engineer should define fastener spacings for optimum sound and fire ratings.

## AVAILABILITY AND COST

dB-Rock viscoelastic base material is available throughout North America. Consult Omni Products for cost.

## MAINTENANCE / STORAGE

Store dB-Rock rolls in a dry area at room temperature. Avoid exposure to moisture. Shelf life of inner layer is 2 years under these conditions. Once laminated, dB-Rock panels shall be stacked on a level surface with a minimum of 3 pallet stickers lined up for multi-unit stacking.

## TECHNICAL SERVICES:

Ken Rodger: (303) 431-0862



**OMNI ACOUSTICAL PRODUCTS**

A Division Of

**OMNI PRODUCTS, INC.**

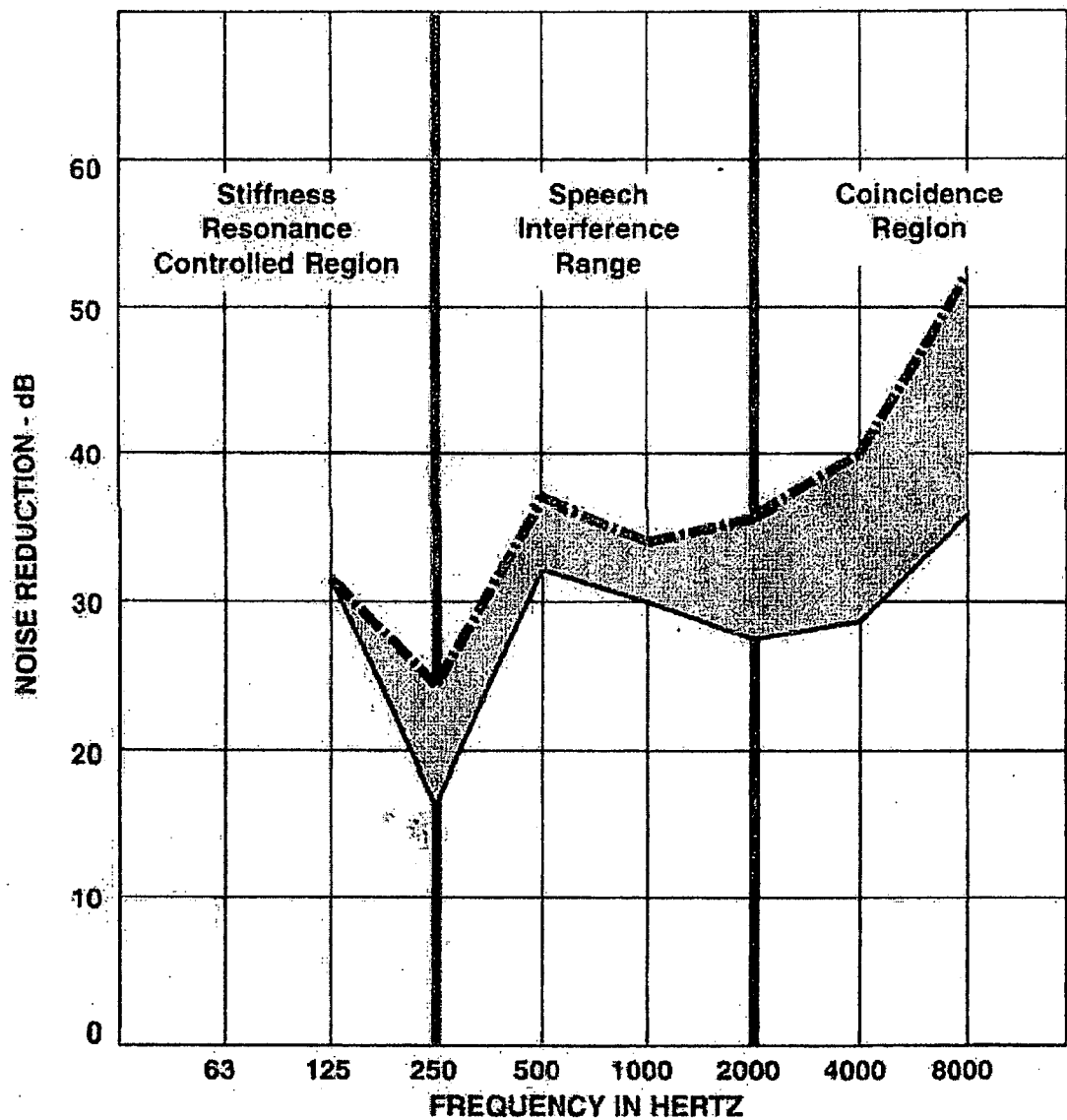
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**Comparison Gypsum Board Sound Deadening Properties  
vs  
dB-ROCK**

**Tech  
Data**



**1/2" dB-ROCK**

**1/2" GYPSUM BOARD**

TESTS PERFORMED BY LEWIS H. BELL AND ASSOCIATES

9/22/88